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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SCHEIBEL, ROBERT C

ART UNIT PAPER NUMBER

2666

DATE MAILED: 11/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/540,308

Applicant(s)

TEODORESCU, VAL

Examiner

Robert C. Scheibel

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-16 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
 - The application or patent numbers of the co-assigned applications cited from line 7 of page 1 to line 6 of page 2 should be updated.
 - On line 13 of page 9, "o" should be "to".

Appropriate correction is required.

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 5,907,559 to Shuman et al.

Art Unit: 2666

Shuman discloses the tree configuration described in the preamble of claim 1 in both the title of the patent "Communications system having a tree structure" as well as in lines 56-57 of column 2: "The distributed multiplexing is achieved by using a multi-level tree network". The generation of alarm data in claim 1 is taught by the sensor data of Shuman. The sensor data is equivalent to alarm data in that it is data that can alert personnel that some action must be taken. This is taught in lines 25-27 of column 1 "These data can alert personnel to the need for control measures and can be input directly to expert management decision support systems". Shuman discloses the step of transmitting alarm data to the subsequent stage of the tree configuration in lines 27-29 of column 3 "sensor level modules which continually read and serially transmit all the stored data to the previous (last multiplexing level) modules". Shuman discloses the step of multiplexing the alarm data in the 8-1 MUX (62) of figure 4. Shuman discloses the step of forwarding the serial bitstream through the tree configuration to a single bitstream at the trunk of the tree configuration in lines 59-62 of column 9 "This then allows the data on the data line selected by multiplexer 62 to be transmitted to the upstream multiplexing modules and eventually to the computer". The data is transmitted to the computer over an RS-422 as shown in the RS-422 channel between the RS422 transceivers 42 and 43 of figure 2A. This is equivalent to the serial bitstream at the trunk of the tree in claim 1.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims **2 and 3** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,907,559 to Shuman, et al in view of U.S. Patent 5,892,812 to Pester, III.

Shuman discloses all the limitations of claim 1 as discussed in the rejection according to 35 U.S.C. 102(e) above. Shuman also discloses the limitation of claim 3 of providing the bitstream to a controller controlling the tree configuration in the computer 30 of figures 1 and 2a. This computer controls the tree configuration; as an example, consider the sending of the addressing information described in lines 61-65 of column 4. Shuman does not disclose expressly the limitations of claim 2.

Pester III discloses the limitation of claim 2 of inserting alarm data at a subsequent stage which pertains to this stage. This limitation is taught in lines 38-40 of column 2: "If Stage 2 determines that there is an STP pair network trouble, it generates alarm and corrective action information and passes it to the Stage 3 controller or process". The STP pair network trouble is the alarm data pertaining to stage 2.

Shuman and Pester III are analogous art because they are from the same field of endeavor of hierarchical networks which transmit monitoring or alarm data. At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Shuman by adding network status information at each multiplexing level and

Art Unit: 2666

passing alarm information related to the network status to the multiplex stream passed to the next level of the tree hierarchy. The motivation for doing so would have been to detect and prevent major outages in this hierarchical network as suggested in lines 6-11 of Pester III.

Therefore, it would have been obvious to combine Pester III with Shuman for the benefit of network outage detection and prevention to obtain the invention as specified in claims 2 and 3.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims **6 and 12-16** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 5 of U.S. Patent No. 6,643,791 in view of U.S. Patent 5,907,559 to Shuman et al.

Claim 5 of U.S. Patent No. 6,643,791 contains the limitations of the system timing generator, the plurality of clock distribution modules, and a plurality of bus control

Art Unit: 2666

modules coupled to at least one level of the clock distribution modules of claim 6 of the present application. The claims of U.S. Patent No. 6,643,791 do not expressly disclose the limitation claim 6 of the multiplexing circuitry in each clock distribution module.

Shuman discloses the limitation of claim 6 of multiplexing circuitry in the 8-1 MUX (62) of figure 4.

U.S. Patent No. 6,643,791 and Shuman are analogous art because they are from the same field of endeavor of hierarchical networks which transmit monitoring or alarm data. At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify U.S. Patent No. 6,643,791 by adding multiplexing circuitry to each level in the hierarchy. The motivation for doing so would have been "to provide a simple method and device for monitoring many locations" as suggested in lines 8-9 of column 2 of Shuman.

Therefore, it would have been obvious to combine Shuman with U.S. Patent No. 6,643,791 to obtain the invention as specified in claim 6.

9. The steps of claim 12 of determining the size of the signaling server, assigning unique IDs, and generating a framed serial control signal are disclosed by the first 3 steps of claim 11 of U.S. Patent No. 6,643,791. U.S. Patent No. 6,643,791 does not expressly disclose the limitations of claim 12 of the step of generating a status signal encoded with alarm data, or the step of multiplexing the signal through the hierarchy.

Shuman discloses the limitation of generating alarm data in the sensor data as described in the rejection of claim 1 above. Shuman also discloses the limitation of

multiplexing the alarm data into a serial bitstream in the 8-1 MUX (62) of figure 4 as described in the rejection of claim 1 above.

U.S. Patent No. 6,643,791 and Shuman are analogous art because they are from the same field of endeavor of hierarchical networks which transmit monitoring or alarm data. At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify U.S. Patent No. 6,643,791 by adding multiplexing circuitry to each level (i.e. in the clock distribution modules) in the hierarchy and generating alarm data at the lowest level of the hierarchy (i.e. in the bus control modules). The motivation for doing so would have been "to provide a simple method and device for monitoring many locations" as suggested in lines 8-9 of column 2 of Shuman.

Therefore, it would have been obvious to combine Shuman with U.S. Patent No. 6,643,791 to obtain the invention as specified in claim 12.

10. All of the limitations of claims **13-16** are disclosed by claims 12-15, respectively, of U.S. Patent No. 6,643,791.

11. Claims **7-11** are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over U.S. Patent No. 6,643,791 in view of U.S. Patent 5,907,559 to Shuman et al as applied to claim 6 above, and further in view of U.S. Patent 5,892,812 to Pester III.

12. U.S. Patent No. 6,643,791 and Shuman teach the limitations of claim 6 as indicated in the rejection above. These references do not disclose the limitation of claim 7 of a means for each CDC to insert it's own alarm data. Pester III discloses inserting alarm data at a subsequent stage which pertains to this stage. This limitation is taught

in lines 38-40 of column 2: "If Stage 2 determines that there is an STP pair network trouble, it generates alarm and corrective action information and passes it to the Stage 3 controller or process". The STP pair network trouble is the alarm data pertaining to stage 2.

U.S. Patent No. 6,643,791, Shuman, and Pester III are analogous art because they are from the same field of endeavor of hierarchical networks which transmit monitoring or alarm data. At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify U.S. Patent No. 6,643,791 by adding network status information at each multiplexing level and passing alarm information related to the network status to the multiplex stream passed to the next level of the tree hierarchy. The motivation for doing so would have been to detect and prevent major outages in this hierarchical network as suggested in lines 6-11 of Pester III.

Therefore, it would have been obvious to combine Shuman and Pester III with U.S. Patent No. 6,643,791 to obtain the invention as specified in claim 7.

13. The limitations of claims **8-11** are disclosed by U.S. Patent No. 6,643,791 as described below. The limitation of claim **8** of the system timing generator producing a system time clock based on a reference input of a predetermined frequency is disclosed in the system timing generator of claim 5 of U.S. Patent No. 6,643,791. The limitation of claim **9** of the bus segment comprising a CPCI bus segment is disclosed in claim 8 of U.S. Patent No. 6,643,791. The limitation of claim **10** of the reference input comprising a derived clock signal is disclosed in claim 7 of U.S. Patent No. 6,643,791. The

limitation of claim 11 of serial control signal comprising a framed bitstream is disclosed in claim 9 of U.S. Patent No. 6,643,791.

Allowable Subject Matter

14. Claims 4-5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 5,058,104 to Yonehara et al and U.S. Patent 5,936,942 to McNeley et al teach multiplexing alarm signals. U.S. Patent 6,359,895 to Yamanaka and U.S. Patent 5,946,373 to Harris teach a hierarchical system for reporting alarm information.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert C. Scheibel whose telephone number is 703-305-9062. The examiner can normally be reached on 6:30-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 703-308-5463. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Art Unit: 2666

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

RCS 11-17-03

Robert C. Scheibel
Examiner
Art Unit 2666

Seema S. Rao
SEEMA S. RAO *11/17/03*
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800